

# Engineering & Scientific Consulting

# James Bus, Ph.D., DABT, Fellow ATS

Senior Managing Scientist | Health Sciences Alexandria

+1-989-274-3389 | jbus@exponent.com

# **Professional Profile**

Dr. Bus has over 40 years of toxicology experience focused on research and evidence-based literature analyses informing potential health risks associated with chemical and pesticide exposures. He offers chemical specific and strategic toxicology expertise addressing development, stewardship, and regulatory needs to individual industry clients and business consortia and government and non-governmental agencies.

Dr. Bus provides expertise in design, implementation, and interpretation of toxicity tests and mode of action and dose response/exposure evaluations furthering translation of toxicology findings to risk assessment. His expertise includes target-organ and endpoint-specific modes of action, and specific toxicity of chemicals including chlorinated organics, ethylene glycol and glycol ethers, aromatic derivatives benzene, styrene, aniline and others, and pesticides such as 2,4-D and glyphosate.

His research interests include toxicokinetic mechanisms mediating dose-dependent expression of chemical toxicity. He has over 120 research and review publications and has received both the Achievement Award and Founder's Award from the Society of Toxicology in recognition of his research and leadership in toxicology.

Dr. Bus' experience includes over 23 years as a consulting toxicologist in the Toxicology and Environmental Research and Consulting unit of The Dow Chemical Company. He previously held positions at the Upjohn Company, the Chemical Industry Institute of Toxicology, and as Assistant Professor of Toxicology at the University of Cincinnati. Across all of these positions he focused on providing consulting and research expertise in support of health risk evaluations of environmental and industrial chemicals and pesticide and pharmaceutical products.

Dr. Bus has served as President of the Society of Toxicology, the American Board of Toxicology and the Academy of Toxicological Sciences, and as a Director of the International Union of Toxicology. He has served on various toxicology-related advisory Boards and Panels including: ILSI-HESI and ILSI Research Foundation; the American Chemical Council Long-Range Research Strategic Science Team; both EPA ORD Board of Scientific Counselors and Chartered Science Advisory Board; the National Academy of Sciences Board on Environmental Studies and Toxicology; the National Institutes of Environmental Health Sciences/National Toxicology Program Board of Scientific Counselors (Technical Reviews Subcommittee); the FDA National Center for Toxicology Research Science Advisory Board; and Board of Directors of the Hamner Institutes. In addition, Dr. Bus served on the Chemical Substances (TLV) Committee of the American Conference of Governmental and Industrial Hygienists, the Program Committee of the Toxicology Forum, and advisory boards of the University of Michigan and Purdue University. He is an Adjunct Professor in the Department of Pharmacology and Toxicology at Michigan State University.

# **Academic Credentials & Professional Honors**

Ph.D., Pharmacology, Michigan State University, 1975

B.S., Medicinal Chemistry, Michigan State University, 1971

International Society for Regulatory Toxicology and Pharmacology International Achievement Award, 2015

International Society for Regulatory Toxicology and Pharmacology International Achievement Award, 2015

Toxicology Forum George H. Scott Memorial Award, 2013

Society of Toxicology Founders Award, 2010

The Dow Chemical Company Responsible Care Award, 2009

Michigan State University, Department of Pharmacology and Toxicology, 2001

KE Moore Distinguished Alumnus AwardRobert A. Scala Award, 1999

Society of Toxicology Achievement Award, 1987

# **Licenses and Certifications**

Board Certified by the American Board of Toxicity (ABT)

First Aid, CPR, and AED trained

# **Academic Appointments**

Adjunct Professor, Department of Pharmacology and Toxicology, Michigan State University, 1987-present

#### **Professional Affiliations**

Sigma Xi, Michigan State Chapter, 1975–1983

American Association for the Advancement of Science, 1975–1987

Teratology Society, 1977-present

American Thoracic Society, 1978–1992

Society of Toxicology, 1980-present

American Society for Pharmacology and Experimental Therapeutics, 1977-present

American Conference of Governmental and Industrial Hygienists (ACGIH), Full Member, 1996-present

Fellow of the Academy of Toxicological Sciences

# **Publications**

Andersen ME, Gentry PR, Swenberg JA, Mundt KA, White KW, Thompson C, Bus J, Sherman JH, Greim H, Bolt H, Marsh GM, Checkoway H, Coggin D, Clewell HJ III. Considerations for refining the risk assessment process for formaldehyde: Results from an interdisciplinary workshop. Regulatory Toxicology and Pharmacology 2019, 106: 210-223.

Zhang F, Marty S, Budinsky R, Bartels M, Pottenger LH, Bus J, Bevan C, Erskine T, Clark A, Holzheuer B, Markham D. Analytical methods impact estimates of trichloroethylene's glutathione conjugation and risk assessment. Toxicology Letters, in press, 2018.

Andersen ME, Cruzan G, Black MB, Pendse SN, Dodd DE, Bus JS, Sarang SS, Banton MI, Waites R, Layko DB, McMullen PD. Strain-related differences in mouse lung gene expression over a two-year period of inhalation exposure to styrene: Relevance to human risk assessment. Regulatory Toxicology and Pharmacology 2018, 96: 153-166.

Cruzan G, Bus JS, Andersen ME, Carlson GP, Banton MI, Sarang SS, Waites R. Based on an analysis of mode of action, styrene-induced mouse lung tumors are not a human cancer concern. Regulatory Toxicology and Pharmacology 2018, 95: 17-28.

Andersen ME, Cruzan G, Black MB, Pendse SN, Dodd D, Bus JS, Sarang S, Banton MI, Waites R, McMullen PD. Assessing molecular initiating events (MIEs), key events (KEs) and modulating factors (MFs) for styrene responses in mouse lungs using whole genome gene expression profiling following 1-day and multi-week exposures. Toxicology and Applied Pharrmacology 2017, 335: 28-40.

Becker RA, Dreier DA, Manibusan MK, Cox LA (Tony), Simon TW, Bus JS. How well can carcinogenicity be predicted by high throughput "characteristics of carcinogens" mechanistic data. Regulatory Toxicolology and Pharmacology 2017, 90:185-196.

Cruzan G, Bus JS, Banton MI, Sarang S, Waites R, Layko DB, Raymond J, Dodd D, Andersen M. Complete attenuation of mouse lung cell proliferation and tumorigenicity in CYP2F2 knockout and CYP2F1 humanized mice exposed to inhaled styrene for up to 2 years supports a lack of human relevance. Toxicological Sciences, 2017, 159: 413-421.

Andersen ME, Black MB, Campbell JL, Pendse SN, Clewell, HJ, Pottenger LH, Bus JS, Dodd DE, Kemp DC, McMullen PD. Combining transcriptomics and PBPK modeling indicates a primary role of hypoxia and altered circadian signaling in dichloromethane carcinogenicity in mouse lung and liver. Toxicology and Applied Pharmacology 2017, 332: 149-158.

Neal BH, Bus J, Marty MS, Coady K, Williams A, Staveley J, Lamb JC. Weight-of-the-evidence evaluation of 2,4-D potential for interactions with the estrogen, androgen and thyroid pathways and steroidogenesis. Critical Reviews Toxicology 2017, 47: 345-401.

Bus JS. "The dose makes the poison": Key implications for mode of action (mechanistic) research in a 21st century toxicology paradigm. Current Opinion in Toxicology 2017, 3: 87-91

Bus, JS. IARC use of oxidative stress as key mode of action characteristic for facilitating cancer classification: Glyphosate case example illustrating a lack of robustness in interpretative implementation. Regulatory Toxicology and Pharmacology 2017, 86: 157-186.

Bus JS. Analysis of Moms Across America report suggesting bioaccumulation of glyphosate in U.S. mother's breast milk: implausibility based on inconsistency with available body of glyphosate animal toxicokinetic, human biomonitoring, and physico-chemical data. Regulatory Toxicology and Pharmacology 2015; 73: 758-764.

Sweeney LM, Kester JE, Kirman CR, Gentry PR, Banton MI, Bus JS, Gargas ML. Risk assessments for

chronic exposure of children and prospective parents to ethylbenzene (CAS No. 100-41-4. Critical Reviews Toxicology 2015; 45: 662-726.

Bus JS, Banton MI, Faber WD, Kirman CR, McGregor DB, Pourreau DB. Human health screening level risk assessments of tertiary-butyl acetate (TBAC): Calculated acute and chronic reference concentration (RfC) and hazard quotient (HQ) values based on toxicity and exposure scenario evaluations. Critical Reviews Toxicology 2015, 42: 142-171.

Rowland JC, Sander M, Bus JS, FutureTox Organizing Committee. FutureTox: Building the road for 21st century toxicology and risk assessment practices. Toxicological Sciences 2014, 137: 269-277.

Wilmer JW, Spencer PJ, Ball N, Bus JS. Assessment of the genotoxicity of trichloroethylene in the in vivo micronucleus assay by inhalation exposure. Mutagenesis 2014; 29: 209-214.

Bus JS, Hammond L. Letter to the Editor (peer reviewed). RE: Knapp DW, Peer WA, Conteh A, Diggs AR, Cooper BR, Glickman NW, et al. Detection of herbicides in the urine of pet dogs following home lawn application. Sci Total Env 2013; 456-457: 34-41. Science of the Total Environment 2014; 487: 576-577.

Saghir SA, Marty MS, Zablotny CL, Passage JK, Perala AW, Neal BH, Hammond L, Bus JS. Life-stage-, sex-, and dose-dependent dietary toxicokinetics and relationship to toxicity of 2,4-dichlorophenoxyacetic acid (2,4-D) in rats: Implications for toxicity test dose selection, design, and interpretation. Toxicological Sciences 2013; 136: 294-307.

Marty MS, Neal BH, Zablotny CL, Yano BL, Andrus AK, Woohiser MR, Boverhof DR, Saghir SA, Perala AW, Passage, JK, Lawson MA, Bus JS, Lamb JC IV, Hammond L. An F1-extended one-generation reproductive toxicity study in Crl:CD(SD) rats with 2,4-dichlorophenoxyacetic acid. Toxicological Sciences 2013; 136: 527-547.

Collins JJ, Bodner KM, Bus JS. Cancer mortality of workers exposed to styrene in the U.S. reinforced plastics and composite industry. Epidemiology 2013, 24:195-203.

Meek ME, Bolger M, Bus JS, Christopher J, Conolly RB, Lewis RJ, Peolini GM, Schoeny R, Haber LT, Rosenstein AB, Dourson ML. A framework for fit-for-purpose dose response assessment. Regulatory Toxicology and Pharmacology 2013; 66:234-240.

Bus JS, Leber AP. Miscellaneous chlorinated hydrocarbon pesticides. In: Patty's Toxicology, Chapter 47, Volume 3. Bingham E and Cohrssen B (eds), J Wiley & Sons, Inc., NJ, 2012.

Creton S, Saghir SA, Bartels MJ, Billington R, Bus JS, Davies W, Dent MP Hawksworth GM, Parry S, Travis KZ. Use of toxicokinetics to support chemical evaluation: Informing high dose selection and study interpretation. Regulatory Toxicology and Pharmacology 2012; 62:241-247.

Cruzan G, Bus J, Hotchkiss J, Harkema J, Banton M, Sarang S. CYP2F2-hgenerated metabolites, not styrene oxide, are a key event mediating the mode of action of styrene-induced mouse lung tumors. Regulatory Toxicology and Pharmacology 2012; 62:214-220.

Leber AP, Bus JS Halogenated benzenes. In: Patty's Toxicology, Chapter 45, 6th Edition, Vol. 3. Bingham E, Cohrssen, B (eds), J Wiley & Sons, Inc., NJ, 2012.

Saghir SA, Bartels MJ, Rick DL, McCoy AT, Rasoulpour RJ, Ellis-Hitchings RG, Marty SM, Terry C, Bailey JP, Billington R, Bus JS. Assessment of diurnal systemic dose of agrochemicals in regulatory toxicity testing — An integrated approach without additional animal use. Regulatory Toxicology and Pharmacology 2012; 63:321-332.

Saltmiras D, Bus JS, Spanogle T, Hauswirth J, Tobia A, Hill S. Peer-reviewed Letter to the Editor regarding the article by Paganelli, et al. Chemical Research in Toxicology 2011; 24:607-608.

Li AA, Maurissen JP, Barnett JF, Jr, Foss J, Freshwater L, Garman RH, Peachtree VL, Hong SJ, Stump DG, Bus JS Oral gavage subchronic neurotoxicity and inhalation subchronic immunotoxicity studies of ethylbenzene in the rat. NeuroToxicology 2010; 31:247-258.

Li AA, Maurissen JP, Barnett JF, Jr, Foss J, Freshwater L, Garman RH, Peachtree VL, Hong SJ, Stump DG, Bus JS Oral gavage subchronic neurotoxicity and inhalation subchronic immunotoxicity studies of ethylbenzene in the rat. NeuroToxicology 2010; 31:247-258.

Saghir S, Zhang F, Rick DL, Kan L, Bus JS, Bartels MJ. In vitro metabolism and covalent binding of ethylbenzene to microsomal protein as a possible mechanism of ethylbenzene-induced mouse lung tumorigenesis. Regulatory Toxicology and Pharmacology 2010; 57:129-135.

Kennepohl E, Munro IC, Bus JS Phenoxy herbicides (2,4-D). In: Handbook of Pesticide Toxicology, Vol. 2, Agents. Krieger R (ed), Academic Press, 2009.

Bus JS, Becker RA. Toxicity testing in the 21st Century: A view from the chemical industry. Toxicological Sciences 2009; 112:297-302.

Cruzan G, Bus J, Banton M, Gingell R, Carlson G. Mouse specific lung tumors from CYP2F2-mediated cytotoxic metabolism: An endpoint/toxic response where data from multiple chemicals converge to support a mode of action. Regulatory Toxicology and Pharmacology 2009; 55:205-218.

Phillips RD, Bahadori T, Barry BE, Bus JS, Gant TW, Mostowy JM, Smith C, Willuhn M, Zimmer U. Twenty-first century approaches to toxicity testing, biomonitoring, and risk assessment: Perspectives from the global chemical industry. Journal of Exposure Science and Environmental Epidemiology 2009; 19:536-543.

Saghir SA, Rick DL, McClymont EL, Zhang F, Bartels MJ, Bus JS. Mechanism of ethylbenzene-induced mouse-specific lung tumor: Metabolism of ethylbenzene by rat, mouse, and human liver and lung microsomes. Toxicological Sciences 2009; 107:352-366.

Hoerger FD, Rampy LW, Rausch DA, Bus JS Industrial perspectives: Translating the knowledge base into corporate policies, programs and practices for health protection. In: Environmental Toxicants, 3rd ed. Lippmann M (ed), John Wiley & Sons, NJ, 2009.

Gargas ML, Sweeney LM, Himmelstein MW, Pottenger LM, Bus JS, Holder JW. Physiologically based pharmacokinetic modeling of chloroethane disposition in mice, rats, and women. Toxicological Sciences 2008; 104:54-66.

Belzer RB, Bus JS, Cavalieri EL, Lewis SC, North DW, Pleus RC. The naphthalene state of the science symposium: Objectives, organization, structure and charge. Regulatory Toxicology and Pharmacology 2008; 51:S1-S5.

Bus JS Toxicity testing in chemical safety evaluation. In: Current Protocols in Toxicology, Chapter 19: Unit 19.2, February 2007. doi 10.1002/0471141755.tx1902s31.

Pottenger L, Bus JS, Gollapudi BB. Genetic toxicity assessment: Employing the best science for human safety evaluation Part VI: When sugar and salt and vegetables are positive, how can genotoxicity data serve to inform risk assessment? Toxicological Sciences 2007; 98:327-333.

Rhomberg LR, Baetcke K, Blancato J, Bus J, Cohen S, Conolly R, Dixit R, Doe J, Ekelman K, Fenner-Crisp P, Harvey P, Hattis D, Jacobs A, Jacobson-Kram D, Lewandowski T, Liteplo R, Pelkonen O, Rice J, Somer D, Turturro A, West W, Olin S. Issues in the design and interpretation of chronic toxicity and carcinogenicity studies in rodents: Approaches to dose selection. Critical Reviews in Toxicology 2007; 37:729-837.

Bahadori T, Phillips RD, Money CD, Quackenboss JJ, Clewell HJ, Bus JS, Robison SH, Humphris CJ, Parekh AA, Osborn K, Kauffman RM. Making sense of human biomonitoring data: Findings and recommendations of a workshop. Journal of Exposure Science and Environmental Epidemiology 2007; 17:308-313.

Mason AM, Borgert CJ, Bus JS, Mumtaz MM, Simmons JE, Sipes IG. Improving the scientific foundation for mixtures joint toxicity and risk assessment: Contributions from the SOT mixtures project - Introduction. Toxicology and Applied Pharmacology 2007; 223:99-103.

Bus JS, Csanady RA, Collier TK, Owens JW, Pettit SD, Scholz NL, Street AC. The extension of molecular and computational information to risk assessment and regulatory decision-making. In: Genomic Approaches for Cross-Species Extrapolation in Toxicology. DiGuilio RT, Benson WT (eds), Society of Environmental Toxicology and Chemistry (SETAC), Joint Society of Toxicology and SETAC Pellston Conference, Pensacola, FL, 2007.

Bus JS, Hammond LE. Regulatory progress, Toxicology, and public concerns with 2,4-D: Where do we stand after two decades. Crop Protection 2007; 266-269.

Saghir SA, Mendrala AL, Bartels MJ, Day SJ, Hansen SC, Sushynski JM, Bus JS Strategies to assess systemic exposure of chemicals in subchronic/chronic diet and drinking water studies. Toxicology and Applied Pharmacology 2006; 211:245-260.

Slikker W Jr, Andersen ME, Bogdanffy MS, Bus JS, Cohen SD, Conolly RB, David RM, Doerrer NG, Dorman DC, Gaylor DG, Hattis D, Rogers RM, Setzer RW, Swenberg JA, Wallace K. Dose-dependent transitions of toxicity: Case studies. Toxicology and Applied Pharmacology 2004; 201:226-294.

Slikker W Jr, Andersen ME, Bogdanffy MS, Bus JS, Cohen SD, Conolly RB, David RM, Doerrer NG, Dorman DC, Gaylor, DW, Hattis D, Rogers, JM, Setzer RW, Swenberg JA, Wallace W. Dose-dependent transitions in mechanisms of toxicity. Toxicology and Applied Pharmacology 2004; 201:203-225.

Bus J, Maurissen J, Marable B, Mattsson J. Association between organophosphate exposure and hyperactivity? Peer reviewed correspondence. Nature Genetics 2003; 34:235.

Lamb JC, Neal BH, Ginevan ME, Bus JS, Mahlburg WM. Herbicide effects on embryo implantation and litter effects. Peer-reviewed Correspondence (Letter to the Editor), Environmental Health Perspectives 2003; 111:A450.

Miranda ML, Mohai P, Bus J, Charnley G, Dorward-King EJ, Foster P, Munns W Jr. Policy concepts and applications. In: Interconnections Between Human Health and Ecological Integrity. DiGuilio RT, Benson WH (eds), Society of Environmental Toxicology and Chemistry (SETAC) Pellston Conference, Pensacola, FL, 2002.

Charles JM, Hanley, TR Jr., Wilson RD, vanRavenzwaay B, Bus JS Developmental toxicity studies in rats and rabbits on 2,4-dichlorophenoxyacetic acid and its forms. Toxicological Sciences 2001; 60:121-131.

Bus JS, Leber AP. Miscellaneous chlorinated hydrocarbon pesticides. In: Patty's Industrial Hygiene and Toxicology, 5th Ed. Bingham E, Corhssen B, Powell C (eds), John Wiley and Sons, Inc, New York, 2001.

Leber AP, Bus JS Halogenated benzene and napthalenes. In: Patty's Industrial Hygiene and Toxicology, 5th Ed. Bingham E, Corhssen B, Powell C (eds), John Wiley and Sons, Inc., New York, 2001.

Hoerger FD, Rampy LW, Rausch DA, Bus JS Industrial perspectives translating the knowledge base into corporate policies, programs, and practices for health protection. In: Environmental Toxicants: Human Exposures and Their Health Effects. Lippmann M (ed), Van Nostrand Reinhold, NY, 2000.

Crissman JW, Bus JS, Miller RR. Toxicology: Judge Data or Dollars? Editorial, Environmental Health Perspectives 1999: 107:A489-491.

Charles JM, Cunny HC, Wilson RD, Ivett JL, Murli H, Bus JS, Gollapudi B. In vivo micronucleus assays on 2,4-dichlorophenoxyacetic acid and its derivatives. Mutation Research 1999; 444:227-234.

Gollapudi BB, Charles JM, Linscombe VA, Day SJ, Bus JS Evaluation of the genotoxicity of 2,4-dichlorophenoxyacetic acid and its derivatives in mammalian cell culture. Mutation Research 1999; 444:217-225.

Charles JM, Cunny HC, Wilson RD, Bus JS, Lawlor TE, Cifone MA, Fellows M, Gollapudi B. Ames assays and unscheduled DNA synthesis assays on 2,4-dichorophenoxyacetic acid and it derivatives. Mutation Research 1999; 444:207-216.

Gollapudi BB, Stott WT, Yano BL, Bus JS Mode of action considerations in the use of transgenic animals for mutagenicity and carcinogenicity evaluations. Toxicology Letters 1998; 102-103:479-484.

Bus JS Dose selection: Metabolic saturation. In: Principles for the Selection of Doses in Chronic Rodent Bioassays. Foran JA (ed), ILSI Press, Washington, D.C., 1997.

Mattsson JL, Charles JM, Yano BL, Cunny HC, Wilson RD, Bus JS Single-dose and chronic dietary neurotoxicity screening studies on 2,4-dichlorophenoxyacetic acid in rats. Fundamental and Applied Toxicology 1997 40:111-119.

Charles JM, Bond DM, Jeffries TK, Yano BL, Stott WT, Johnson, KA, Cunny HC, Wilson RD, Bus JS Chronic dietary toxicity/oncogenicity studies on 2,4-dichlorophenoxyacetic acid in rodents. Fundamentals of Applied Toxicology 1996; 33:166-172.

Charles JM, Cunny HC, Wilson RD, Bus JS Comparative subchronic studies on 2.4-dichlorophenoxyacetic acid, amine, and ester in rats. Fundamental and Applied Toxicology 1996; 33:161-165.

Bus JS Isoprene toxicology: Introduction and overview. Toxicology Letters 1996; 113:240-241.

Placke ME, Griffis L, Bird M, Bus J, Persing RL. The chronic inhalation oncogenicity study of isoprene in B6C3F1 mice. Toxicology 1996; 113:253-262.

Charles JM, Dalgard, DW, Cunny HC, Wilson RD, Bus JS Comparative subchronic and chronic dietary toxicity studies on 2,4-dichlorophenoxyacetic acid, amine and ester in the dog. Fundamental and Applied Toxicology 1995; 29:78-85.

Gingell R, Boatman RJ, Bus JS, Crawley TJ, Knaak JB, Krasavage WJ, Skoulis NP, Stack CR, Tyler TR. Glycol ethers and other selected glycol derivatives. In: Patty's Industrial Hygiene and Toxicology, Vol IIC: Toxicology, 4th Ed. Clayton GD, Clayton FE (eds), John Wiley and Sons, NY, 1995.

Bus JS, Gibson JE. Body defense mechanisms to toxicant exposure. In: Patty's Industrial Hygiene and Toxicology, Vol. IIIB: Biological Responses, 3rd edition. Cralley L, Cralley L, Bus J (eds), John Wiley and Sons, Inc., NY, 1995.

Lock EA, Strasser J Jr, Bus JS, Charbonneau M. Studies on the renal transport of trimethylpentanoic acid metabolites of 2,2,4-trimethylpentane in rat renal cortical slices. Journal of Applied Toxicology 1993; 13:291-296.

Gingell R, Krasavage WJ, Wise RC, Knaak JB, Bus J, Gibson WB, Stack CR. Toxicology of diethylene glycol butyl ether 1. Exposure and risk assessment. Journal of American College of Toxicology 1993; 12:139-144.

Bus JS, Reitz RH. Dose-dependent metabolism and dose setting in chronic studies. Toxicology Letters 1992; 64/65:669-676.

Stott WT, Bus JS, Gibson JE, Gehring PJ. Role of mechanistic data in the interpretation of oncogenicity data and risk assessment. Environmental Carcinogenesis Review1990-1991; C8:287-298.

Robertson P, Jr, White EL, Bus JS. effects of methyl ethyl ketone pretreatment on hepatic mixed function oxidase activity and on in vivo metabolism of n-hexane. Xenobiotica 1989; 19:721-729.

Lock EA, Charbonneau M, Strasser J, Swenberg JA, Bus JS. Light hydrocarboninduced nephrotoxicity: the interaction of 2,2,4-trimethylpentane with alpha-2u-globulin in the male rat kidney-in nephrotoxicity. Bach PH, Lock EA (eds), Plenum Publishing Corp., pp. 527-534, 1989.

Gibson JE, Bus JS. Current perspectives on gasoline (light hydrocarbon)-induced male rat nephropathy. Annals of the New York Academy of Sciences 1988; 534:481-485.

Short BG, Burnett VL, Cox MG, Bus JS, Swenberg JA. Site-specific renal cytotoxicity and cell proliferation in male rats exposed to petroleum hydrocarbons. 1987; 57(5):564-577.

Charbonneau M, Lock EA, Strasser J, Cox MG, Turner MJ, Bus JS, 2,2,4-trimethylpentane-Induced nephrotoxicity. 1. Metabolic disposition of TMP in male and female Fischer 344 rats. Toxicology and Applied Pharmacology 1987; 91:171-181.

Lock EA, Charbonneau M, Strasser J, Swenberg JA, Bus JS. 2,2,4 trimethylpentane-induced nephrotoxicity. 11. The reversible binding of a TMP metabolite to a renal protein fraction containing [alpha]-2u-globulin. Toxicology and Applied Pharmacology 1987; 91:182-192.

Bus JS, Popp JA. Perspectives on the mechanism of action of the splenic toxicity of aniline and structurally-related compounds. Food and Chemical Toxicology 1987; 25(8):619-626.

Chellman, GJ, Hurtt, ME, Bus, JS, and Working PK. Role of testicular versus epididymal toxicity in the induction of the cytotoxic damage in Fischer-344 rat sperm by methyl chloride. Reprod Toxicol 1987; 1: 25-36.

Chellman GJ, Bus JS, Working PK. Role of epididymal inflammation in the induction of dominant lethal mutations in Fischer 344 rat sperm by methyl chloride. Proceedings, National Academy of Science 1986; 83:8087-8091.

Chellman GJ, Morgan KT, Bus JS, Working PK. Inhibition of methyl chloride toxicity in male F-344 rats by the anti-inflammatory agent BW755C. Toxicology and Applied Pharmacology 1986; 85:367-379.

Working PK Bus JS. Failure of fertilization as a cause of preimplantation loss induced by methyl chloride in Fischer-344 rats. Toxicology and Applied Pharmacology 1986; 86:124-130.

Chellman GJ, White RD, Norton RM, Bus JS. inhibition of the acute toxicity of methyl chloride in male B6C3F1 mice by glutathione depletion. Toxicology and Applied Pharmacology 1986; 86:93-104.

Bus JS. Route of exposure: An important consideration in animal selection and the design of toxicity studies. Proceedings, 1985 Monsanto Toxicology Symposium, 1986.

Working PK, Bus JS. Methyl chloride toxicity. CIIT Activities 1986; 6(8):1, 3-6.

Bus JS. Bioactivation of alkanes. In: Bioactivation of Foreign Compounds. Anders MW (ed), Academic Press, Orlando, pp. 111-119, 1985.

Bus JS, Gibson JE. Body defense mechanisms to toxicant exposure. In: Patty's Industrial Hygiene and Toxicology, Vol. IIIB: Biological Responses, Second edition. (Cralley L, Cralley L (eds), John Wiley and Sons, Inc., NY, pp. 143-174, 1985.

Bus JS. The relationship of carbon disulfide metabolism to development of toxicity. NeuroToxicology 1985; 6:73-80.

Gottfried MR, Graham D, Morqan M, Casey HW, Bus JS. The morphology of carbon disulfide neurotoxicity. NeuroToxicology 1985; 6:89-96.

Working PK, Bus JS, Hamm TE, Jr. Reproductive effects of inhaled methyl chloride in the male Fischer-344 rats. 1. Mating performance and dominant lethal assay. Toxicology and Applied Pharmacology 1985; 77(1):133-143.

Working PK, Bus JS, Hamm TE, Jr. Reproductive effects of inhaled methyl chloride in the male Fischer-344 rats. 11. Spermatogonial toxicity and sperm quality. Toxicology and Applied Pharmacology 1985; 77(1):144-157.

Kloss MW, Swenberg J, Bus JS. Sex-dependent differences in the disposition of [14C-5]-2,2,4-trimethylpentane in Fischer-344 rats. In: Renal Heteroqueneity and Target Cell Toxicity. Bach PH, Lock EA (eds), John Wiley and Sons, Chichester, pp. 489-492, 1985.

Baker EL, Bus JS, Cranmer JM, Curtis MF, Golberg L, Grasso P, Keller LW, Merigan WH, Morgan RW, Scala RA, Seppalainen AM. Workshop on neurobehavioral effects of solvents consensus summary. NeuroToxicology 1985; 6:101-102 (Editorial).

John-Greene JA, ., Bus JS Comments on heart malformations in B6C3F1 — Mouse fetuses induced by methyl chloride continuing efforts to understand the etiology and interpretation of an unusual lesion. Teratology 1985; 32:483-487 (Peer-reviewed Letter to Editor).

Kloss MW, Bus JS. Hydrocarbon-mediated nephrotoxicity. CIIT Activities 1985; 5(5):1, 3-4.

Bus JS, Gibson JE. Paraquat: A model for oxidant-initiated toxicity. Environmental Health Perspectives 1984; 55:37-46.

Bus JS, Gibson JE. Role of activated oxygen in chemical toxicity. In: Drug Metabolism and Toxicity. Mitchell JR, Horning MG (eds), Raven Press, NY, pp. 21-32, 1984.

Beauchamp RO, Jr, Bus JS, Popp JA, Boreiko CJ, Andjelkovich D. A critical review of the literature on hydrogen sulfide toxicity. CRC Critical Reviews in Toxicology 1984; 13(1):25-97.

Kornbrust DJ, Bus JS. Glutathione depletion by methyl chloride and relationship to lipid peroxidation. Toxicology and Applied Pharmacology 1984; 72:388-399.

White RD, Norton RM, Bus JS. The effect of buthionine sulfoximine, an inhibitor of glutathione synthesis, on hepatic drug metabolism in the male mouse. Toxicology Letters 1984; 23:25-32.

Chapin RE, White RD, Morgan KT, Bus JS. Studies of lesions induced in the testis and epididymus of F-344 rats by inhaled methyl chloride. Toxicology and Applied Pharmacology 1984; 76:328-343.

Bus JS. Biochemical mechanisms underlying the toxic action of chemicals. In: Structure Activity Correlation as a Predictive Tool in Toxicology Fundamentals, Methods and Applications. Goldberg L (ed), Hemisphere Publishing Corporation, New York, 51-59, 1983.

Chapin RE, Morgan KT, Bus JS. The morphogenesis of testicular degeneration induced in rats by orally administered 2,5-hexanedione. Experimental and Molecular Pathology 1983; 38:149-169.

Kornbrust DJ, Bus JS The role of glutathione and cytochrome P-450 in the metabolism of methyl chloride. Toxicology and Applied Pharmacology 1983; 67:246-256.

Bus JS, Gibson JE. Mechanisms of superoxide radical-mediated toxicity. Journal of Toxicology - Clinical Toxicology 1983; 19:689-697.

Bus JS. Oxygen activation and lipoperoxidative mechanisms of toxicity of pesticides and other xenobiotics. In: IUPAC Pesticide Chemistry Human Welfare, and the Environment: Vol. 3, Modes of Action, Metabolism and Toxicology I. Miyamoto J et al. (eds), Pergamon Press, New York, pp. 457-462, 1983.

Beauchamp RO, Jr, Bus JS, Popp JA, Boreiko CJ, Golberg L. A critical review of the literature on carbon disulfide toxicity. CRC Critical Reviews in Toxicology 1983; 11(3):169-278.

Bus JS, Gibson JE. Mechanisms of superoxide-mediated toxicity. Journal of Toxicology - Clinical Toxicology 1983; 19:689-697.

Bus JS. Aniline and nitrobenzene: Erythrocyte and spleen toxicity. CIIT Activities 1983; 3(12):1,6.

Dodd DE, Bus JS, Barrow CS. Nonprotein sulfhydryl alterations in f-344 rats following acute methyl chloride inhalation. Toxicology and Applied Pharmacology 1982; 62:228-236.

Chapin RE, Norton RM, Popp JA, Bus JS. The effects of 2,5 hexanedione on reproductive hormones and testicular enzyme activities in the f-344 rat. Toxicology and Applied Pharmacology 1982; 62:262-272.

Irons RD, Greenlee WF, Wierda D, Bus JS. Relationship between benzene metabolism and toxicity: A proposed mechanism for the formation of reactive intermediates from polyphenol metabolites. In: Biological Reactive Intermediates 11. Snyder R, Parke DV, Kocsis JJ, Jollow DJ, Gibson CG, Wilmer CM (eds), J Plenum Publishing Corporation, NY, pp. 229-243, 1982.

Bus JS, Deyo D, Cox M. Dose-dependent disposition of n-hexane in f-344 rats after inhalation exposure. Fundamentals of Applied Toxicology 1982; 2 226-229.

Kornbrust DJ, Bus JS, Doerjer G, Swenberg JA. Association of inhaled 14cmethyl chloride with macromolecules from various rat tissues. Toxicology and Applied Pharmacology 1982; 65(1):122-134.

Kornbrust DJ Bus JS Metabolism of methyl chloride to formate in rats. Toxicology and Applied Pharmacology 1982; 65:135-143.

Bus JS. Integrated studies of methyl chloride toxicity. CIIT Activities 1982; 2(1):3-5.

Greenlee WF, Sun JD, Bus JS. A proposed mechanism of benzene toxicity: Formation of reactive intermediates from polyphenol metabolites. Toxicology and Applied Pharmacology 1981; 59:187-195.

Gillies PJ, Norton RM, Bus JS Inhibition of sterologenesis but not glycolysis in 2,5-hexanedione-Induced distal axonopathy in the rat. Toxicology and Applied Pharmacology 1981; 59:287-292.

Gillies PJ, Norton RM, Baker TS, Bus JS. Altered lipid metabolism in 2,5-hexanedione-Induced testicular atrophy and peripheral neuropathy in the rat. Toxicology and Applied Pharmacology 1981; 59:293-299.

Bus JS, White EL, Gillies PJ, Barrow CS. Tissue distribution of n-hexane, methyl n-butyl ketone, and 2,5-hexanedione in rats after single or repeated inhalation exposure to n-hexane. Drug Metabolism and Disposition 1981; 9:386-387.

Bus J. 5. n- hexane toxicity. CIIT Activities 1981; 1(3):3-4.

Dodd DE, Bus JS, Barrow CS. Lung sulfhydryl changes in rats following chlorine inhalation. Toxicology and Applied Pharmacology 1980; 52:199-208.

Gillies PJ, Norton RM, Bus JS. Effect of 2,5-hexanedione on lipid biosynthesis in sciatic nerve and brain of the rat. Toxicology and Applied Pharmacology 1980; 54:210-216.

Gillies PJ, Norton RM, White EL, Bus JS. Inhibition of sciatic nerve sterologenesis in hexacarbon-Induced distal axonopathy in the rat. Toxicology and Applied Pharmacology 1980; 54:217-222.

Bus JS, Gibson JE. Lipid peroidation and its role in toxicology. Reviews in Biochemical Toxicology 1979; 1:125-151.

White EL, Bus JS, Heck H.d'A. Simultaneous Determination of n-hexane, 2-hexanone and 2,5-hexanedione in biological tissues by gas chromatography-mass spectrometry. Biomedical Mass Spectrometry 1979; 6(4):169-172.

Rickert DE, Edgar TS, Bus JS, Barrow CS, Irons RD. Benzene disposition in the rat after exposure by inhalation. Toxicology and Applied Pharmacology 1979; 49:417-423.

Bus JS, White EL, Tyl RW, Barrow CS. Perinatal Toxicity and metabolism of n-hexane in Fischer-344 rats after inhalation exposure during gestation. Toxicology and Applied Pharmacology 1979; 51:295-302.

Bus JS, Vinegar A, Brooks SM. Biochemical and physiological changes in lungs of rats exposed to a cadmium chloride aerosol. American Review of Respiratory Disease 1978; 118:573-580.

Gelman BB, Michaelson IA, Bus JS. The effect of lead on oxidative hemolysis -8-2/99 and erythrocyte defense mechanisms in the rat. Toxicology and Applied Pharmacology 1978; 45:119-129.

Bus JS, Aust SD, Gibson JE. Lipid peroxidation as a proposed mechanism for paraquat toxicity. In: Biochemical Mechanisms of Paraquat Toxicity. Autor AP (ed), Academic Press, Inc., New York, pp. 157-176, 1977.

Bus JS, Cagen SZ, Olgaard MK, Gibson JE. A mechanism of paraquat toxicity in mice and rats. Toxicology and Applied Pharmacology 1976; 35:500-513.

Cagen SZ, Janoff AS, Bus JS, Gibson JE. Effect of paraquat (methyl viologen) on liver function in mice. Journal of Pharmacology and Experimental Therapeutics 1976; 198:222-228.

Bus JS, Aust AD, Gibson JE. Paraquat toxicity: Proposed mechanism of action involving lipid peroxidation. Environmental Health Perspectives 1976; 16:139-146.

Bus JS, Preache MM, Cagen SZ, Posner HS, Eliason BC, Sharpe CW, Gibson JE. Fetal toxicity and distribution of paraquat and diquat in mice and rats. Toxicology and Applied Pharmacology 1975; 33:450-460.

Bus JS, Gibson JE. Postnatal toxicity of chronically administered paraquat in mice and interactions with oxygen and bromobenzene. Toxicology and Applied Pharmacology 1975; 33:461-470.

Bus JS, Aust SD, Gibson JE. Lipid peroxidation: A possible mechanism for paraquat toxicity. Research Communications in Chemical Pathology and Pharmacology 1975; 11:31-38.

Bus JS, Gibson JE. Bidrin: Perinatal toxicity and effect on development of acetylcholinesterase and choline acetyltransferase in mice. Food and Cosmetics Toxicology 1974; 12:313-332.

Drach JC, Bus JS, Schultz SK, Sandberg JN. Biotransformation of 9-b-D Arabinofuranosyladenine by rat

and human erythrocytes. Biochemical Pharmacology 1974; 23:2761-2767.

Bus JS, Aust SD, Gibson JE. Superoxide-and singlet oxygen catalyzed lipid peroxidation as a possible mechanism for paraquat (methyl viologen) toxicity. Biochemical and Biophysical Research Communications 1974; 58:749-755.

Bus JS, Gibson JE. Teratogenicity and neonatal toxicity of ifosfamide in mice. Proceedings, Society for Experimental Biology and Medicine 1973; 143:965-970.

#### **Presentations**

- Bus J. Application of Kinetically-Derived Maximum Dose (KMD) principles to post-hoc interpretation of high-dose specific toxicity studies. Invited Roundtable Session: The Kinetically-Derived Maximum Dose (KMD), a new dimension to the Maximum Tolerated Dose (MTD). Society of Toxicology Annual Meeting, San Antonio, TX, March 14, 2018. (co-developer of session).
- Bus, J. Invited presentation/Congressional testimony. United States House of Representatives Hearing "Examining the scientific and operational integrity of EPA's IRIS program", Committee on Science, Space, and Technology's Subcommittee on Environment and Sub-committee on Oversight. Rayburn House Office Building, Washington, D.C., September 6, 2017.
- Bus J. Summary of global risk assessment approaches for formaldehyde science General approaches of the EU, Canada, WHO and the US. Invited Presentation, Formaldehyde Science Invited Experts Workshop: Understanding Potential Human Health Cancer Risk From Data Integration to Risk Evaluation. University of North Carolina, October 10-11, 2017, Chapel Hill, NC.
- Bus J. Rules and Issues in Risk Analysis: Consumer Chemicals. Invited presentation, Risk Analysis Workshop, Institute for Humane Studies and the Mercatus Institute, George Mason University, June 27-28, 2016, Portland, OR.
- Bus, J. IARC use of "oxidant stress" mode of action in glyphosate cancer classification evaluation. Invited presentation Glyphosate Task Force Symposium, EuroTox Annual Meeting, Seville, Spain, September 5, 2016.
- Bus, J. IARC use of "oxidant stress" mode of action in glyphosate cancer classification evaluation. Invited presentation. Glyphosate Task Force Webinar, November 10, 2016.
- Bus J. Introduction and overview. Invited presentation, Toxicology Forum session "Debating the varying criteria for incorporating mechanistic data into cancer classification." Toxicology Forum, Washington, D.C., January 28, 2015.
- Bus J. Practical implications in applying in vitro data to inform risk assessment. Invited presentation, Toxicology Forum, Colorado Springs, CO, July 13, 2015.
- Bus J. The rise of chemophobia in the modern era: What dose toxicology really have to say? Invited presentation, Joint meeting of the Mid-Michigan AIChE and ACS Chapters, Midland, MI, October 28, 2015.
- Bus J. The dose makes of the poison: The bridge from toxicology to understanding real-world health risks. Invited presentation, Plenary Lecture, St John's University Tox Expo, Queens, NY, May 1, 2014.
- Bus J. National Academy of Sciences, Plastic marine debris and potential human health risks workshop, invited discussant, Washington, D.C., April 23, 2014.
- Bus J. The dose makes of the poison: The bridge from toxicology to understanding real-world health risks. Invited presentation, Monsanto Seminar Series, St Louis, MO, June 17, 2014.

- Bus J. Introduction: Mouse lung tumors: Proposal for a unified mode of action for compounds metabolized by CYP2F2. Invited presentation, Toxicology Forum session "Mouse Lung Tumors", Aspen, CO, July 8, 2014 (session co-developer).
- Bus J. Epidemiology: Case analysis of pesticides (2,4-D) commonly used in agricultural production. Invited presentation, Argentine Toxicological Association Congress, Comodoro, Argentina, September, 2014.
- Bus J and Dellarco V. Risk assessment in the 21st century: Leverage of internationally established frameworks. Invited presentation, ILSI Argentina Workshop, Buenos Aires, Argentina, September, 2014.
- Bus J. Introduction: Mouse lung tumors: Proposal for a unified mode of action for compounds metabolized by CYP2F2. Invited presentation, Toxicology Forum, Aspen, CO, July, 2014.
- Bus J. A case study showing how toxicology complements epidemiology for informing human risk. Invited presentation, Society of Toxicology Continuing Education course "Epidemiology for Toxicology: What the numbers really mean. Society of Toxicology Annual Meeting, Phoenix, AZ, March 2014.
- Bus J. Thresholds for toxicity and public perception. Invited presentation, American College of Toxicology Annual Meeting symposium "4 M's: Mistakes, misuse, mismanagement, misunderstanding...looking at things that have gone wrong in the past: What to learn to plan for the future. San Antonio, TX, November, 2013.
- Bus J. Agrochemicals: Current trends on risk analysis, toxicology, and epidemiology. Invited presentation, ILSI Argentina Workshop, Buenos Aires, Argentina, October, 2013.
- Bus J. What is the normal environment? Exposure and toxicological considerations. Invited presentation, Santa Fe, NM, 2013.
- Bus J. Defining the elements of a holistic weight of evidence approach. Session presentation, Weight of evidence workshop, ILSI North America Technical Committee on Food and Chemical Safety, Miami, FL 2013.
- Bus J. The Importance of dose selection. Presentation in session: The carcinogenesis bioassay in 2013: Key elements and best practices. Toxicology Forum. Washington. DC. 2013.
- Bus J. Mode of action studies in toxicological hazard and risk assessment: The present and the future. Symposium presentation, CXR Bioscience Symposium, Mechanistic toxicology: preventing and solving problems, Cambridge, MA, 2012
- Bus J. FutureTox: Building the road for 21st century toxicology and risk assessment practices. Invited opening remarks to Society of Toxicology Contemporary Concepts in Toxicology program (meeting Cochair), Arlington, VA, 2012.
- Bus J. Opportunities to utilize current understanding of dosimetry for the future. Invited session lecture, Society of Toxicology Contemporary Concepts in Toxicology program FutureTox: Building the road for 21st century toxicology and risk assessment practices, Arlington, VA, 2012. (J Bus co-chair of CCT organizing committee).
- Bus J. Bisphenol a: Current toxicology studies and risk to humans. Toxicology Forum Session Panel Discussant, Aspen, CO, 2012.
- Bus J. Advocating for evidence-based data evaluation by the National Toxicology Program Report on Carcinogens. Testimony to joint hearing of the US Congressional House Committee on Science and Technology and Small Business Committee, Washington, DC, 2012.

Bus JS. New approaches to toxicology study design: Linking testing dose response and dosimetry to human exposure and health outcomes. Invited workshop presentation, Annual Meeting of the Society of Toxicology, Washington, DC, 2011.

Pottenger LH, Bus JS, Swenberg JA. Background/endogenous DNA Damage: Considerations for dose response and risk assessment. Invited presentation Alliance for Risk Assessment Workshop 3: Beyond Science and Decisions: From problem formulation to dose response assessment, Fairfax, VA, 2011.

Bus J. Use of dose and exposure data to improve design and/or interpretation of test concentrations used in high throughput screening and research assays. Invited presentation, Toxicology Forum, Aspen, CO, 2011.

Bus J The making of a toxicologist in the 21st century: Learning from the past while building for the future. Invited plenary lecture, Society of Toxicology Education Summit, Baltimore, MD, 2011.

Bus J. The OECD extended one-generation test protocol: Evaluation of reproductive, endocrine, and developmental neuro- and immunotoxicity of 2,4-D. Invited presentation, Central States Regional Chapter of the Society of Toxicology, Omaha, NE, 2011.

Bus J Low dose: Getting at biologically relevant exposures: Panel discussion. Invited Panel session chair, ICCA LRI & Health Canada Workshop Advancing Exposure Science to Improve Chemical Safety, Quebec City, CA, 2011.

Bus J Application of new technologies and the future of toxicity assessment for the 21st century. Invited presentation, Northern California Regional Chapter of the Society of Toxicology, Berkeley, CA, 2011.

Bus J New tools toxicology and exposure science: Informing the shape of the dose-response under conditions of low-dose exposures. Invited presentation, Society of Toxicology of Canada Annual Meeting Symposium - Low Dose Effects and their Uses in Risk Assessment: When is an Effect Adverse, CA, 2011.

Bus J Ethylbenzene: A case study using mode of action (MOA) framework assessment for understanding human relevance of cancer response. Invited presentation, Annual Meeting of the Society of Toxicology, Washington, DC, 2011.

Bus J Implications of new technologies in toxicology for toxicity testing and risk assessment in the 21st century. Invited presentation, Morgridge Institute seminar, Madison, WI, 2011.

Bus J. The OECD extended one-generation study: Application to the herbicide 2,4-D. Invited presentation, ILSI Brazil Annual Meeting, Aquas de Sao Pedro, Sao Paulo, Brazil, 2011.

Bus J and Beck B. Weighing complex data in risk decisions: Concepts of evidence-based technology. Invited speaker and session Co-chair, Roundtable session, Annual Meeting of the Society of Toxicology, Salt Lake City, UT, UT, 2010.

Bus J. 21st century approaches to hazard and risk assessment: Opportunities to improve science informed decision-making. Invited presentation, AIHA PCIH Symposium 21st century toxicity testing and human health risk assessment for environmental agents, Ft. Worth, TX, 2010.

Bus J. New tools of toxicology and exposure science: Opportunities for informing low-dose evaluations. Invited presentation, ARA Workshop I, Beyond Science and Decisions: From problem formulation to dose response, Austin, TX, 2010.

Bus J. Opportunities for emerging technologies to impact chemical evaluation policy: Building science-informed decisions. Invited presentation, Dioxin2010, San Antonio, TX, 2010.

- Bus J. Low-dose linearity: What can emerging technologies tell us? Invited presentation. Workshop organizer and co-chair, Annual Meeting of the Society of Toxicology, Baltimore, MD, 2009.
- Bus J. Why is an understanding of toxicokinetics important? Invited presentation, Annual Meeting of the Society of Toxicology continuing education course Principles and Applications of Toxicokinetics, Baltimore, MD, 2009.
- Bus J. Application of new technologies to the future of toxicology: The dose still makes the poison. Invited presentation, Issues session, Annual Meeting of the Society of Toxicology, Baltimore, MD, 2009.
- Bus J. Current state and directions of animal toxicity testing. Invited presentation, Joint American Chemical Society, Society of Toxicology and Society for Risk Analysis Congressional science briefing, Washington, DC, 2009.
- Bus J The linear no-threshold hypothesis: Recent perspectives from radiation and chemical toxicology. Invited presentation and session chair, Toxicology Forum, Aspen, CO, 2009.
- Bus J. Silver book concepts: Perspectives of a toxicologist. Invited presentation, Center for Advancing Risk Assessment Science and Policy Framing Workshop, Research Triangle Park, NC, 2009.
- Bus J The way forward and the role of genomics: Chemical industry perspectives. Invited presentation, NIEHS workshop Genomics in cancer risk assessment, Venice, Italy, 2009.
- Bus J. Predictability of animal toxicity and carcinogenicity models for human risk: Part III: Application of toxico- and onco-metabolic pathways in animals and humans as the basis for high throughput screening assays. Invited session chair and organizer, Toxicology Forum, Washington, DC, 2009.
- Bus J. Human biomonitoring: Translating analytical detection to risk perspectives. Invited presentation, 2nd World Congress on Risk, Society for Risk Analysis, Guadalajara, Mexico, 2008.
- Bus J. The use of in vitro data in understanding human health effects and risk. Invited presentation, TestSmart DNT2 symposium, Johns Hopkins University (CAAT), Reston, VA, 2008.
- Bus J. Application of new technologies and the future of toxicity assessment for the 21st century. Invited presentation, Annual Meeting of the American College of Toxicology symposium Advancement and current trends in environmental chemical safety assessment, Tucson, AZ, 2008.
- Bus J. Occupational exposure limits: ACGIH: Evaluation of control banding. Invited presentation, Toxicology Forum, Aspen, CO, 2008.
- Bus J Predictability of animal toxicity and carcinogenicity models for human risk: Part 2, Fishbowl. Invited participant, Toxicology Forum, Aspen, CO, 2008.
- Bus J 21st century approaches to toxicity testing, biomonitoring and risk assessment: Advanced technologies session discussant. ICCA LRI Workshop, invited discussant and rapporteur, Amsterdam, Netherlands, 2008.
- Bus J. The dose makes the poison: Considerations for modern toxicology. Invited presentation, Fred Sperling Memorial Lecture, Howard University, Washington, DC, 2008.
- Bus J. Use of toxicokinetics to improve design and interpretation of industrial chemical and pesticide toxicity studies. Invited presentation, NC3R's Workshop Toxicokinetics and the 3Rs, London, England, 2008.
- Bus J. Evaluation of Industry Research Efficiency. Invited presentation, National Academy of

- Sciences/National Research Council Workshop on Evaluating the Efficiency of EPA R&D Programs, Washington, DC, 2007.
- Bus J DNA methylation and epigenetics: Significance to risk assessment. Invited presentation and Session Chair. Toxicology Forum, Aspen, CO, 2007.
- Bus J. Science based decision making in chemicals management: A chemical industry perspective. Invited presentation, Carleton University Expert International Seminar Securing a comparative advantage: The hidden role of effective and efficient regulation, Ottawa, Canada, 2007.
- Bus J. How to effectively talk to the public. Invited presentation, Annual Meeting of the Society of Toxicology Continuing Education Course, Charlotte, NC, 2007.
- Bus J. What experimental studies (kinectics, metabolism, gene expression etc.) are needed to help in the interpretation of biomonitoring data in a health risk perspective. Invited presentation, Annual Meeting of the Society of Toxicology Biological Modeling Specialty Section, Charlotte, NC, 2007.
- Bus J. Pesticides and children: 10 years after FQPA. Invited debate participant, Annual Meeting of the Society of Toxicology, Risk Assessment Specialty Section, Charlotte, NC, 2007.
- Bus J Low dose effects of chemicals: Implications for the future of toxicology. Invited presentation, Battelle Pacific Northwest Symposium, Richland, WA, 2007.
- Bus J. The collision of hormesis with environmental chemical and natural chemical exposures: Opportunities and challenges for integrating homesis into an improved understanding of chemical health risks. Invited presentation, 4th Annual International Conference on Hormesis: Implications for Toxicology, Medicine and the Environment, Amherst, MA, 2005.
- Bus J. Role of biomonitoring in toxicology and molecular epidemiology. Invited presentation, American College of Toxicology Annual Meeting, Indian Wells, CA, 2006.
- Bus J. Linking toxicology studies to human biomonitoring: Strategies to assess internal dose in diet and drinking water toxicity studies. Invited presentation, Toxicology Forum, Aspen, CO, 2006.
- Bus J. Environmental economics: The impact of toxicology and environmental sciences. Invited presentation, Northwood University, Flint, MI, 2006 and Midland, MI, 2007.
- Bus J. Assessing internal dose levels: Interpreting the risks from human biomonitoring, Invited presentation and session chair, Toxicology Forum, Aspen, CO, 2006
- Bus J. Review of charge for this meeting. Meeting Organizing Committee and Co-Chair, Society of Toxicology Contemporary Concepts in Toxicology Workshop Charting the Future: Building the Foundation for Mixtures Joint Toxicity and Risk Assessment, Atlanta, GA, 2005.
- Bus J. Seeking mid and long term career goals: Perspectives of an industry toxicologist. Invited presentation, Annual Meeting of the Society of Toxicology Career Development Workshop, Baltimore, MD, 2004.
- Bus JS. The REACH initiative: Can it realistically be achieved? Invited presentation, National Academy of Science Institutes of Medicine Workshop Global Environmental Health in the 21st Century: From Government Regulations to Corporate Social Responsibility, Washington, DC, 2004.
- Bus J, Hammond L. Regulatory progress, toxicology, and public concerns with 2,4-D: Where do we stand after two decades? Invited presentation, 4th International Weed Science Congress, Durban, South Africa, 2004.

- Bus, JS. Impacts of chemicals on the elderly: Building on testing and research foundations. Invited presentation, National Academies of Sciences Workshop on Differential Susceptibility of Older persons to Environmental Hazards, Washington, DC, 2002.
- Bus J. Industry's approach to cumulative risk assessment under the Food Quality Protection Act for organophosphate pesticides. Invited presentation, Johns Hopkins University Spring Seminar Series, Baltimore, MD, 2002.
- Bus J. Dose-response in toxicology: Implications for human risk assessment. Invited lecture, John Hopkins University, Baltimore, MD, 2002.
- Bus J. Pesticide effects on birds: Beyond the tip of the iceberg. Invited presentation, American Bird Conservancy Symposium Pesticide Effects on Birds: Beyond the tip of the Iceberg, Laurel MD, 2001.
- Bus J. The meaning of mechanisms: Implications for the future of toxicology. Invited presentation, KE Moore Distinguished Alumnus Award, Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI, 2001.
- Bus J. Science and its perceptions of Daubert. Invited Panelist, Product Liability Advisory Council, Daubert's Legacy: Courtroom strategies for determining the admissibility of expert testimony. Amelia Island, FL, 1997.
- Bus JS. Hyaline droplet-type nephrotoxicity: Its potential role in male rat specific cancer induced by unleaded gasoline and other compounds. Symposium on Non-Genotoxic Carcinogens: Extent of Carcinogenic Hazard, ASPET-SOT Joint Meeting, Baltimore, MD, August 19, 1986.
- Bus JS. Animal models in chemical toxicity: Are they always predictive of toxic effects in other species? 78th Annual Meeting of American Society of Animal Science, Kansas State University, Manhattan, KS, July 31, 1986.
- Bus JS. Mechanisms: chemical induction of alpha 2u-globulin nephropathy. Toxicology Forum, Aspen, CO, July 15, 1986.
- Bus JS. Renal injury and carcinogenesis. Society of Toxicology Continuing Education Course, 24th Annual Meeting of the Society of Toxicology, San Diego, CA, 1985.
- Bus JS. Activated oxygen as a product of drug metabolism: Role in drug toxicity. 2nd Annual Meeting of the Drug Metabolism Subsection of the Pharmaceutical Manufacturers Association, Atlanta, GA, September, 1985.
- Bus JS. Route of exposure: An important consideration in animal selection and the design of toxicity studies. Monsanto Toxicology Symposium, St. Louis, MO, October 31, 1985.
- Bus JS. Workshop on neurobehavioral effects of solvents. Rapporteur for Session: Study of Solvent Effects in Animals, Raleigh, NC, October 14-16, 1985.
- Bus JS. Participant: Hydrocarbon Nephrotoxicity Scientific Advisory Group, The Proctor and Gamble Company, September 25, 1985.
- Bus JS. Toxicity and metabolism of carbon disulfide. 2nd International Conference on the Neurotoxicology of selected chemicals: Acrylamide, xexacarbons, IDPN and carbon disulfide, Chicago, IL, September, 1983. (Bus J, co-chairman of hexacarbon and carbon disulfide symposiums).
- Bus JS. Oxygen activation and lipoperoxidative mechanisms of toxicity of pesticides and other xenobiotics. Invited poster and discussion, 5th International Congress of Pesticide Chemistry (IUPAC), Kyoto, Japan, 1982.

Bus JS, Gibson JE. Mechanisms of free-radical-mediated toxicity. Annual Meeting of American Chemical Society, Las Vegas, NV, 1982.

Bus JS. Biochemical mechanisms underlying the toxic action of chemicals. Symposium on Structure-Activity Relationships in Toxicology, Chemical Industry Institute of Toxicology, and Environmental Protection Agency, Raleigh, NC, 1981.

Bus JS, Gibson JE. Role of activated oxygen in chemical toxicity. ASPET Workshop on Drug Metabolism and Toxicity, Houston, TX, 1980.

Bus JS, Gillies PJ. Role of lipid metabolism in hexacarbon neuropathy. Symposium on Unresolved Mechanisms of Toxicity, Annual Meeting of SOT, Washington, DC, 1980.

Bus JS. Role of lipid peroxidation in paraquat toxicity. Symposium on Biochemical Mechanisms of Paraquat Toxicity, Iowa City, IA, 1976.

Bus JS. Paraquat toxicity: A proposed mechanism of toxicity involving lipid peroxidation. SOT Symposium on Target Organ Toxicity, Lung, Cincinnati, OH, 1975.

Research seminars at various institutions including: Duke University, Durham, NC; Michigan State University, E. Lansing, MI; Univ. of Kansas, Lawrence, KS; New Jersey Medical School, Newark, NJ; Univ. of Cincinnati, Cincinnati, OH; Vanderbilt University, Nashville, TN; Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM; General Motors Research Labs, Warren, MI; Exxon Corp., REHD, E. Millstone, NJ; Mobil Oil Corp., Princeton, NJ; Dow Chemical Co., Midland, MI; Merck, Sharp and Dohme, West Point, PA; U.S. Environmental Protection Agency, Washington, DC; Imperial Chemical Industries, Ltd., Macclefield, Cheshire, U.K.; Mitre Corp., McClean, VA; University of Texas, Austin; Medical College of Ohio, Toledo, OH; Purdue University, E. Lafayette IN; Wayne State University, Detroit, MI.; Texas A&M University, College Station, TX; University of Washington, Seattle, WA.

# Abstracts (Posters/Platform)

Von Cott A, Freficks M, Hastings C, Honavar N, Flick B, Fabian E, Badding M, Gollapudi B, Bus J, van Ravenzwaay B. Mode-of-Action Analysis for Uterine Adenocarcinomas Associated with High Dietary Doses of the Insecticide Afidopyropen. Poster presentation, Society of Toxicology Annual Meeting, San Antonio, TX, March 2018.

Cruzan G, Bus J, Banton M, Sarang S, Waites R, Layko D, Raymond J. Mouse-specific CYP2F2 metabolism is only reasonable mode of action responsible for short- and long-term lung toxicity and tumorigenicity of styrene. Poster presentation, Society of Toxicology Annual Meeting, Baltimore, MD, March, 2017.

Bus JS, Maurissen JM, Charlap JH, Picut CA, Collins R, Bevan CJ, Lamb JC IV. An extended one-generation reproduction and developmental neurotoxicity (DNT) drinking water study (OECD 443) of ethylene dichloride (EDC) in Crl:CD(SD) rats. Poster presentation, Society of Toxicology Annual Meeting, New Orleans, LA, March 2016.

Cruzan G, Bus JS, Banton MI, Sarang SS, Waites R, Layko D, Raymond J. No lung pathology in mice from twelve months of exposure to styrene in the absence of Cyp2f2 metabolism. Poster presentation, Society of Toxicology Annual Meeting, New Orleans, LA, March, 2016.

Andersen ME, Cruzan G, Bus JS, Banton MI, Sarang SS, Black M. Using transcriptomics and cell proliferation to evaluate mode of action of ethylbenzene in wild-type, cyp2f2 knockout and cyp2f2 humanized mice exposed for 5 days. Poster presentation, Society of Toxicology Annual Meeting, New Orleans, LA, March, 2016.

Cruzan G., Bus J, Banton M, Sarang S, Dodd D, Black M, Andersen, M. Mouse lung genomic responses in styrene treated wild-type, CYP2F2 knockout and CYP2F1 humanized mice support the low human relevance of mouse-specific lung toxicity and tumorigenicity. Poster presentation, Society of Toxicology Annual Meeting, San Diego, CA, 2015.

Cruzan G, Bus J, Hotchkiss J, Sura R, Banton M, Sarang S. Studies of styrene, styrene oxide and 4-hydroxystyrene toxicity in CYP2F2 knockout and CYP2F1 humanized mice supports the lack of human relevance for mouse lung tumors. Poster presentation, Annual Meeting of the Society of Toxicology, San Antonio, TX, 2013.

Pottenger L, Swenberg JA, Bus JS. Endogenous DNA damage: Considerations for dose response. Platform presentation, Annual Meeting of the Society of Toxicology, San Francisco, CA, 2012.

Sura R, Hotchkiss J, Krieger S, Bus, J, and Cruzan G. Mode of action approach for styrene-induced mouse lung tumors and its relevance to human risk assessment. Poster presentation, Annual Meeting of the Society of Toxicologic Pathologists, Boston, MA, 2012.

Cruzan G, Bus J, Hotchkiss J, Banton M, Sarang S. Mode of action of styrene mouse lung tumors: No lung toxicity in CYP2F1 humanized mice supports lack of human relevance. Poster presentation, Annual Meeting of the Society of Toxicology, San Francisco, CA 2012.

Cruzan G, Bus JS, Ding X, Hotchkiss J, Harkema JR, Gingell R. No lung toxicity from styrene in CYP2F2 knockout mice. Poster presentation, Annual Meeting of the Society of Toxicology, Washington, DC, 2011.

Bus JS, Neal BH, Zablotny CL, Yano BL, Saghir SA, Marty SM. 2,4-Dichlorophenoxyacetic acid (2,4-D): Evaluation of systemic toxicity in a dietary extended one-generation study in CRL:CD(SD) rats. Poster presentation, Annual Meeting of the Society of Toxicology, Salt Lake City, UT, UT, 2010.

Neal BH, Bus JS, Zablotny CL, Yano BL, Saghir SA, Marty SM. 2,4-Dichlorophenoxyacetic acid (2,4-D): Evaluation of reproductive/ endocrine endpoints in a dietary extended one-generation study in CRL:CD(SD) rats. Poster presentation, Annual Meeting of the Society of Toxicology, Salt Lake City, UT, UT, 2010.

Andrus AK, Zablotny CL, Yano BL, Yano BL, Bus JS, Neal BH, Marty SM. 2,4-Dichlorophenoxyacetic acid (2,4-D): Evaluation of developmental neurotoxicity (DNT) and developmental immunotoxicity (DIT) in a dietary extended one-generation study in CRL:CD(SD) rats. Poster presentation, Annual Meeting of the Society of Toxicology, Salt Lake City, UT, UT, 2010.

Li AA, Maurissen JP, Burnett JF, Foss JA, Freshwater L, Gurman R, Peachee V, Hong S, Stump D, Bus JS. Oral gavage subchronic neurotoxicity and inhalation subchronic immunotoxicity studies of ethylbenzene in the rat. Poster presentation, Annual Meeting of the Society of Toxicology, Salt Lake City, UT, 2010.

Dong J, Gao R, Bus JS. New chemical notification in China: Perspectives from an industry toxicologist. Poster presentation, Annual Meeting of the Society of Toxicology, Salt Lake City, UT, 2010.

Saghir SA, Marty MS, Clark AJ, Zablotny CL, Bus JS, Perala AW, Yano BL, Neal BH. A dietary dose range-finding and toxicokinetic (TK) study of 2,4-dichlorophenoxyacetic acid (2,4-D) in adult Crl:CD(SD) rats and their offspring: I. Toxicokinetics. Poster presentation, Annual Meeting of the Society of Toxicology, Baltimore, MD, 2009.

Marty MS, Saghir SA, Zablotny CL, Clark AJ, Perala A, Yano BL, Bus JS, Neal BH. A dietary dose range-finding toxicokinetic (TK) study on 2,4-dichlorophenoxyacetic acid (2,4-D) in adult Crl:CD(SD) rats and their offspring: II. Toxicity. Poster presentation, Annual Meeting of the Society of Toxicology, Baltimore, MD, 2009.

Marty MS, Zablotny CL, Bus JS, Passage JK, Yano BL, Neal BH. Applying trigger criteria for breeding a second generation in the extended one-generation ACSA study design: A practical example using 2,4-dichlorophenoxyacetic acid in Crl:CD(SD) rats. Poster presentation, Annual Meeting of the Society of Toxicology, Baltimore, MD, 2009.

Price PS, Arnold SM, Fontaine DD, Bus JS. Alternative explanation of reported increases in low metabolism of benzene. Poster presentation, Benzene symposium, Munich Germany, 2009.

Kirman C, Sweeney L, Bus J, Gargas M. Mode of action (MOA) evaluations and derivation of a cancer reference value for ethylbenzene. Poster presentation, Annual Meeting of the Society of Toxicology, Seattle, WA, 2008.

Bus JS, Burns C, Ritter L. Integrating biomonitoring into epidemiology and toxicology research. Society of Toxicology 2006 Annual Meeting Workshop, Toxicologist 2006; 90: 383.

Saghir SA, Rick DL, Bartels MJ, Bus JS. In vitro metabolism of ethylbenzene by rat, mouse and human liver and lung microsomes. Toxicologist 2006; 90:141.

Bus JS. Developing good MSDS communications in industry. Society of Toxicology 2005 Annual Meeting Sunset Session. Toxicologist 2005; 84, abstract 1666.

Saghir SA, Mendrala AL, Bartels MJ, Day SJ, Hansen SC, Shushynski JM, Bus JS. Strategies to assess systemic exposure of test material in subchronic studies. Toxicologist 2005; 84: abstract 1242.

Bus J, Henderson R. Low-dose extrapolation: Time for a fresh look at an old problem. Society of Toxicology Roundtable Session, Annual Meeting of the Society of Toxicology, 2004.

Bus JS. An open forum discussion on the Canadian role in identifying, characterizing, and addressing environmental health issues on a local and global scale: Perspectives of an US industry toxicologist. 37th Annual Symposium of the Society of Toxicology of Canada, Montreal, Quebec, December 6-7, 2004.

Bus JS. Seeking mid- and long term career goals: Perspectives of an industry toxicologist. Society of Toxicology 2004 Annual Meeting, 2004.

Bus JS. Implications of biomarker data for the future of toxicology and risk assessment. Invited speaker, SOT Workshop "CDC's Annual Human Exposure Report: Can Such Biomarker Data be used to Improve Health Risk Assessments and Regulatory Actions?" Toxicologist 2002; 66:214.

Bus J. Recent animal studies characterizing the toxicity of the herbicide 2,4-D: Carcinogenicity, chronic toxicity, genotoxicity, developmental toxicity and neurotoxicity. 4th Congress of Toxicology in Developing Countries, Meeting abstracts, p.18, Antalya, Turkey, November 6-10, 1999.

Bus J, Oliver, G, Bolles H, Wright J, Shurdut B.. Chemical risk assessment in theory and practice: Implications for accuracy of exposure assessments. 4th Congress of Toxicology in Developing Countries, Meeting abstracts, p.66, Antalya, Turkey, November 6-10, 1999.

Jeffries TK, Yano BL, Stott WT, Ormand JR, Battjes JE, Charles JM, Cunny HC, Wilson RD, Bus JS. Dietary chronic toxicity/oncogenicity of 2,4-dichlorophenoxyacetic acid (2,4-D) in rats. Fundamentals of Applied Toxicology (suppl. Toxicologist) 1996; 30:51.

Baker TK, Xu Y, Isenberg JS, Chen WL, Gibson JE, Bus JS, Klaunig JE. Fenazaquin toxicity in rat, mouse, hamster and human cells. The International Toxicologist 1995; 7: 22-P-37.

Placke M, Persing R, Cox T, Griffis L, Bus J, Bird M. Inhalation oncogenicity study of isoprene in B6C3F1 mice. Toxicologist 1994; 14:138.

Hiser MF, Kropscott BE, Bus JS, Gardiner T. Pharmacokinetics of phenol in rats after gavage, drinking water, and inhalation exposures. Toxicologist 1993; 13:174.

Pottenger LH, Nieusma JL, Bus JS. Species-dependent disposition and toxicity of ethyl chloride in female mice and rats. Toxicologist 1992; 12:424.

Bus JS, Crissman JW, Fox TR, Redmond JM, Cieszlak FS, Corley RA, Stott WT. Rat and mouse liver and kidney response to inhaled propylene glycol monomethyl ether (PGME). Toxicologist 1992; 12: 234.

Pottenger LH, Landry TD, Bus JS. Species-specific and dose-dependent non-protein sulfhydryls (NPSH) Depletion in female mice and rats after inhalation exposure to ethyl chloride. Toxicologist 1991; 11:348.

Branstetter D, Stout C, Parker A, Bus JS. Preclinical evaluation of paldimycin sodium, an antibiotic with a novel mechanism of action which is active against multiple resistant Staphylococus Sp. and Streptococcus Sp.. Pharmacologist 1987; 29.

Lock EA, Charbonneau M, Strasser J, Bus JS. The renal transport of pentanoic acids derived from 2,2,4-trimethylpentane. Toxicologist 1987; 7(1):89.

Lock EA, Charbonneau M, Strasser J, Bus JS. The Reversible Binding of 2,2,4-trimethylpentane (TMP) to renal alpha-2u-globulin in male Fischer-344 rats. Toxicologist 1987; 7(1):27.

Chellman GJ, Hurtt ME, Bus JS, Working PK. Role of testicular toxicity in the induction of pre-Implantation loss in F-344 rats by methyl chloride. Toxicologist 1987; 7(1):147.

Charbonneau M, Lock EA, Strasser J, Short BG, Bus JS. Nephrotoxicity of 2,2,4-trimethylpentane (TMP) metabolites in male Fischer-344 rats. Toxicologist 1987; 7(1):89.

Bus JS, White EL, Heck H.d'A, Gibson JE. The distribution and metabolism of n-hexane in pregnant Fischer-344 rats. Teratology 1987; 17:42A.

Working PK, Bus JS, Norton RM. Failure of fertilization as a cause of methyl chloride-induced preimplantation loss in Fischer-344 rats. Toxicologist 1986; 6:98.

Chellman GJ, Bus JS, Working PK. Role of epididymal inflammation in the induction of post implantation loss in F-344 rats by methyl chloride. Toxicologist 1986: 6:98.

Short B, Burnett V, Cox M, Bus J, Swenberg J. Dose response studies of 2,2,4-trimethylpentane (TMP)-induced nephrotoxicity and retention in the male rat. Toxicologist 1986; 6:172.

Kloss MW, Cox MG, Norton RM, Bus JS. Evidence of [14C-4,5]-2,2,4-trimethylpentane binding in urine and serum of F-344 rats. Toxicologist 1986; 6:172.

Chellman GJ, Norton RM, Bus JS. Inhibition of the acute renal toxicity of methyl chloride in mice by glutathione (GSH) depletion. Toxicologist 1986; 6:180.

Charbonneau M, Lock EA, Strasser J, Bus JS. Disposition of [14C-4]-trimethylpentane (TMP) in male and female Fischer-344 rats. Pharmacologist 1986; 28:178.

Short BG, Burnett VL, Cox M, Bus JS, Swenberg JA. Identification of the P2 segment of the renal proximal tubule as a dose-responsive region of cell proliferation in hydrocarbon nephropathy of the male rat. Proceedings, 37th Annual Meeting of the American College of Veterinary Pathologists and the 21st Annual Meeting of the American Society for Veterinary Clinical Pathology, p. 72, 1986.

Kloss MW, Cox MG, Norton RM, Bus JS. Effect of cytochrome P-450 induction and inhibition on the disposition of [14C-4,5]-2,2,4-trimethylpentane in male Fischer-344 rats. Toxicologist 1985; 5(1):59.

Chellman GJ, Morgan KT, Bus JS, Working PK. Inhibition of methyl chloride toxicity in rats by the anti-inflammatory agent BW755C. Pharmacologist 1985; 27(3):228.

Working PK, Bus JS, Norton RM, Hamm TE, Jr. A dominant lethal study of inhaled methyl chloride in male F-344 rats. Toxicologist 1984; 4(1):82.

Working PK, Bus JS, Earle LL, Hamm TE, Jr. Effects of methyl chloride on sperm of F-344 rats. Toxicologist 1984; 4(1):82.

Kloss MW, Cox MG, Norton RM, Swenberg J, Bus JS. Sex dependent differences in the disposition of [14C-5]-2,2,4-trimethylpentane in Fischer-344 rats. Proceedings, 2nd International Symposium of Nephrotoxicity, Guildford, Surrey, U.K.; Human Toxicology 1984; 3(5):424.

Chapin RE, White RD, Morgan KT, Bus JS. Morphogenesis of the reproductive lesions in male F-344 rats after methyl chloride (MeCl) inhalation. Toxicologist 1983; 3:62.

Morgan JM, Casey HW, Bus JS, Hamm TE, Salem H. A 90-day inhalation study of hydrogen sulfide in Fischer-344 rats, Sprague Dawley rats and B6C3F1 mice. Toxicologist 1983; 3:63.

Morgan JM, Casey HW, Hall CW, Bus JS, Hamm TE, Salem H. A 90-day inhalation study of carbon disulfide in Fischer-344 Rats, Sprague Dawley rats, and B6C3F1 mice. Toxicologist 1983; 3:64.

Robertson P, Cox MG, Bus JS. Response of erythrocyte and spleen to aniline insult in Fischer-344 rats. Toxicologist 1983; 3:128.

White RD, Norton RM, Bus JS. The effect of buthionine sulfoximine on hepatic microsomal drug metabolism enzymes. Toxicologist 1983 3:164.

White RD, Norton RM, Bus JS. Potential role of enterohepatic circulation in mediating methyl chloride toxicity in B6C3F1 mice. Pharmacologist 1983; 25(3):228.

Robertson P, Cox MG, Bus JS. Sex differences in the binding of [14C]-Aniline-HCI in blood, liver, and spleen of Fischer-344 (F-344) rats in vivo. Pharmacologist 1983; 25(3):228.

Bus JS, Deyo D, Cox M. Disposition of methyl ethyl ketone in f-344 rats after inhalation exposure. Toxicologist 1982; 2:160.

Chapin RE, Norton RM, Popp JA, Bus JS. Effects 2,5-hexanedione on reproductive hormones and testicular enzyme activities in the F-344 rat. Toxicologist 1982; 2(1):77-78.

Levin AA, Bus JS, Dent JG. Interactions of nitrobenzene with hepatic microsomes: Evidence for cytochrome P450 uncoupling. Toxicologist 1982; 2:17.

Kornbrust DJ, Bus JS. Depletion of glutathione by methyl chloride and relationship to lipid peroxidation. Toxicologist 1982; 2(1):A458.

Bus JS, Gibson JE. Mechanisms of free-radical-mediated toxicity. Book of Abstracts, 183rd American Chemical Society National Meeting, Las Vegas, NV, Abstract No. PEST 040, 1982.

Bus JS. Oxygen activation and lipoperoxidative mechanisms of toxicity of pesticides and other xenobiotics. 5th International Congress of Pesticide Chemistry (IUPAC), Kyoto, Japan, September, 1982.

Robertson P, White EL, Bus JS. Effect of methyl ethyl ketone (MEK) treatment on hepatic mixed function oxidase (MFO) activity and on in vivo metabolism of n-hexane. Toxicologist 1982; 2(2):143. Also appeared in Pharmacologist 1982; 24(3).

White RD, Norton RM, Bus JS. Evidence for s-methyl glutathione metabolism in mediating the acute toxicity of methyl chloride (MeCI). Toxicologist 1982; 2(2):A429. Also appeared in Pharmacologist 1982; 24(3):A429.

Kornbrust DJ, Doerjer G, Bus JS. Studies of the metabolism of methyl chloride in relation to its incorporation into macromolecules. Toxicologist 1981; 1(1):70.

Bus JS, Deyo D, Cox M. Disposition of radioactivity in rats after acute inhalation exposure to 14c-n-hexane. Toxicologist 1981; 1(1):135.

Gillies PJ, Norton RM, Bus JS. Altered Lipid metabolism in 2,5 hexanedione-induced testicular atrophy and peripheral neuropathy in the rat. Toxicologist 1981; 1(1):51.

Bus JS. Effect of single or repeated aniline HCI treatment on tissue nonprotein sulfhydryl concentration in rats. Pharmacologist 1981; 23:169.

White EL, Bus JS. Determination of n-hexane, methyl ethyl ketone and their metabolites in sciatic nerves of rats by gas chromatography mass spectrometry. Abstracts of Papers, Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Pittsburgh, PA, March 12, 1980.

Gillies PJ, Norton RM, White EL, Bus JS. Studies of the inhibition of sterologenesis in hexacarbon-Induced axonopathy in sciatic nerves of the rat. Abstracts of Papers, Society of Toxicology. 19th Annual Meeting, Washington, DC, March 9-13, 1980.

Bus JS, R. Wolkowski-Tyl, Barrow CS. Alterations in maternal and fetal non-protein sulfhydryl (NPSH) concentrations in pregnant Fischer-344 rats after acute inhalation exposure to methyl chloride. Teratology 1980; 21(2):32A.

Wolkowski-Tyl R Bus JS. Distribution of 14C-Aniline HCI (ANI) in Dams and fetuses of Fischer-344 rats after single or multiple dosing. Teratology 1980; 21(2):76A.

Irons RD, Greenlee WF, Wierda D, Bus JS. Relationship between benzene metabolism and toxicity. Abstracts of Papers, 2nd International Symposium on Biological Reactive Intermediates, Chemical Mechanisms and Biological Effects, University Surrey, Guildford, UK, July 14-17, 1980.

Greenlee WF, Bus JS. A proposed mechanism for benzene toxicity: Formation of reactive metabolites from polyphenol metabolites of benzene. Pharmacologist 1980; 22(3):A389.

Sun JD, Bus JS. Comparison of covalent binding of 14C-Aniline HCl in red blood cells, spleen, and liver of rats. Pharmacologist 1980; 22(3):247.

Kornbrust DJ, Bus JS. Association of inhaled 14C-methyl chloride with macromolecules from various rat tissues. Pharmacologist 1980; 22(3):247.

White EL, Bus JS. Determination of n-Hexane, methyl ethyl ketone and their metabolites in sciatic nerves of rats by gas chromatography mass spectrometry. ACS Pittsburgh Conference, 1980.

Dodd DE, Bus JS, Barrow CS. Lung sulfhydryl contents in rats following chlorine inhalation. Toxicology and Applied Pharmacology 1979; 48:A62.

Gralla EJ, Bus JS, Reno F, Cushman JR, Ulland BN. Studies of aniline HCl in rats. Toxicology and Applied Pharmacology 1979; 48:A97.

Bus JS, White EL, Barrow CS. Disposition of n-hexane in rats after single and repeated inhalation exposure. Toxicology and Applied Pharmacology 1979; 48:A167.

Bus JS, Tyl RW. Perinatal toxicity of n-hexane in Fischer-344 rats. Teratology 1979; 19:22A.

Bus JS, Sun J. Accumulation and covalent binding of radioactivity in rat spleen after 14C-Aniline HCl administration. Pharmacologist 1979; 21:221.

Dodd DE, Bus JS, Barrow CS. Alterations in tissue sulfhydryl concentrations after acute inhalation exposure to methyl chloride. Pharmacologist 1979; 21:215.

Gillies PJ, Norton RM, Bus JS. Effect of 2,5-hexanedione on lipid metabolism in sciatic nerves of rats. Pharmacologist 1979; 21:219.

White EL Bus JS. Gas chromatographic-mass spectral analysis of n-hexane and methyl ethyl ketone metabolites. Journal of the Elisha Mitchell Scientific Society 1979 Summer; 118.

Bus JS, Rickert DE, Norton RM, Gibson JE. The pharmacokinetics and metabolism of aniline hydrochloride in Fischer-344 rats. Toxicology and Applied Pharmacology 1978; 45:256.

Rickert DE, Edgar TS, Barrow CS, Bus JS, Irons RD. Benzene disposition in rats after inhalation exposure. Pharmacologist 1978; 20:204.

Bus JS. Disposition of 14C-Methyl Chloride in Fischer-344 rats after inhalation exposure. Pharmacologist 1978; 20:214.

Bus JS, Vinegar A, Brooks SM. Enzymatic and physiologic responses of rat lungs to acute cadmium chloride inhalation. Toxicology and Applied Pharmacology 1977; 41:81.

Gelman BB, Bus JS. An interaction between chronic lead exposure and acute phenylhydrazine administration in the rat. Toxicology and Applied Pharmacology 1977; 41:43.

Bus JS, Cagen SZ, Aust SD, Gibson JE. Lipid peroxidation: A possible mechanism for paraquat toxicity. Toxicology and Applied Pharmacology 1975; 33:197-198.

Gibson JE, Cagen SZ, Wuellner JC, Bus JS. Studies on paraquat (methyl viologen) toxicity and mechanisms of action in mice. 6th International Congress of Pharmacology, Helsinki, Finland, 1975.

Bus JS, Olgaard MK, Gibson JE. Paraquat toxicity: Cross-tolerance with oxygen and in vivo antioxidant concentrations. Pharmacologist 1975; 17:203.

Bus JS, Preache MM, Gibson JE. Distribution, placental transfer and perinatal toxicity of paraquat in mice. Toxicology and Applied Pharmacology 1974; 19:122.

Bus JS, Gibson JE. Involvement of oxygen and lipid peroxidation in the toxicity of paraquat in mice. Pharmacologist 1974; 16:230.

Bus JS, Gibson JE. Development of acetylcholinesterase in mouse brain and its response to bidrin. Pharmacologist 1973; 15:198.

Bus JS, Gibson JE. Teratogenicity and neonatal toxicity of if osfamide in mice. Federal Proceedings 1973; 32:745.

Bus JS, Short RD, Gibson JE. Studies on the disposition of 14CCyclophosphamide in newborn mice. Federal Proceedings 1972; 31:601.

Stolman S, Estes RA, Bus JS, Loh HH. The effect of morphine and morphine dependence on brain protein synthesis. 5th International Congress Pharmacology, San Francisco, CA, 1972.

# **Editorships & Editorial Review Boards**

Regulatory Toxicology and Pharmacology, Associate Editor, 2014-present

Current Opinions in Toxicology, Editorial Board, 2016-present

Environmental Health Perspectives, Editorial Review Board, 2008-2017

Journal of Toxicology, Editorial Board, 2008-present

Toxicology and Applied Pharmacology, Acquisition Specialty Editor, 2003-2012

Toxicology and Applied Pharmacology., 1981-1989; Editorial Review Board, Associate Editor, 1989-1992

Dose Response (formerly Non-linearity in Biology, Toxicology and Medicine), Editorial Review Board, 2002-2012

Current Protocols in Toxicology, Co-Editor, 2005-2009

Toxicology Industrial Health, Editorial Review Board, 1986-1995

Reproductive Toxicology, Editorial Review Board, 1986-1997

Toxicology Update, Editorial Review Board, 1996-1997

# **Peer Reviews**

Toxicology and Applied Pharmacology

Toxicological Sciences

**Environmental Health Perspectives** 

**Environmental Research** 

Journal Toxicology

Archives of Toxicology

Dose Response

Regulatory Pharmacology and Toxicology

Critical Reviews in Toxicology

Chemico-Biological Interactions

**Human and Experimental Toxicology** 

**Current Opinion in Toxicology** 

Food and Chemical Toxicology

**Environmental Health** 

**Human and Experimental Toxicology** 

International Journal of Environmental Research and Public Health
International Journal of Molecular Sciences
Journal of Applied Toxicology

Toxicology